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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,211	11/28/2001	Rene Lazecki	P/1336-156	1227

2352 7590 02/12/2003

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EXAMINER

SAADAT, CAMERON

ART UNIT PAPER NUMBER

3713

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/996,211

Applicant(s)

LAZECKI ET AL. *On*

Examiner

Cameron Saadat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 8-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification teaches a transceiver unit comprising a reflector for reflecting a portion of the weapon signal onto itself. It does not indicate a "reflector for reflecting at least an effective portion of the weapon signal back to a weapon".

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the claim language intends dependency on claim 3 or whether the claim is independent. Furthermore, the claim language, such as, "comprising at least one obstacle to visibility of an entire impact area of a projectile", is unclear.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-5, 10-13, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deinlein (USPN 6,450,817 B1), in view of Gross (USPN 5,914,661).**

Regarding claims 1 and 3, Deinlein discloses a method and device for simulating the effect of an exploding projectile activated by means of projectile (column 5, lines 27-30), comprising: emitting an activation signal by means of projection; detecting the projected activation signal by a receiver located in the weapon simulator KSIM; transmitting an impact signal when the weapon signal is sensed by the sensor and causing the impact signal to cover a simulated impact area including a first portion of the impact area which is covered by the projected activation signal from the weapon and a second portion of the impact area which is not covered by the projected activation signal which is part of the impact area of a simulated detonation of a projectile that would be launched to the impact area (column 5, lines 33-37; Fig. 3a).

Deinlein discloses a projected activation signal of a hand grenade weapon signal HGR that is detected by a receiving unit of the weapon simulator KSIM, yet, it is not explicitly

disclosed that the projected activation signal is emitted from a weapon or detected by a sensor. However, Gross discloses a system wherein a weapon signal is transmitted from a weapon system 500 and wherein the projected activation signal is detected by a sensor (column 2, line 32). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the projected weapon signal described Deinlein by emitting the weapon signal from a weapon and using a sensor to detect the projected activation signal, in light of the teachings of Gross, thereby providing a more realistic simulation of launching or firing a projectile, to enhance training quality.

Regarding claims 2, 4-5, 10-12, Deinlein discloses a method and system for simulating the effect of an exploding projectile fired, further comprising an impact signal that is transmitted by the weapon simulator KSIM corresponding to the type of weapon explosion being simulated, wherein the impact signal is determined by a directional effect of the weapon activation (column 4, lines 24-26; 38-40). It is not explicitly stated that the trajectory of the projectile impact signal is determined by the angle of incidence of the projectile signal on a sensor (as per claims 2-4), nor is it explicitly disclosed that the signal detection of the projectile comprises a laser/sensor configuration (as per claims 10-12). However, Gross discloses a simulated weapon system wherein sensors are configured to determine the trajectory of the projectile by the angle of incidence of the projectile signal on the sensor (column 2, lines 39-55); and (as per claim 5), wherein the sensor comprises a plurality of sensors configured to sense over a total angular range (column 2, lines 30-35). In view of Gross, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the sensor described by in Deinlein, by providing a sensor configuration that senses a projectile signal over a total angular range in order

to provide a laser detection system capable of identifying potential direct or indirect laser energy, and further determining the strength and location of the projectile source.

Regarding claims 13 and 17, Deinlein discloses a system for simulating the effect of an exploding projectile fired, wherein the receiver of the weapon simulator receives a projected activation signal, and consecutively the transmitter of the weapon simulator transmits an impact signal in the form of a radio frequency transmission (column 5, lines 26-38). It would have been an obvious matter of design choice as to the transmission type (laser, RF) of the impact signal for transmitting the impact signal to participant sensor units that are exposed inside the range of the impact signal transmission area, wherein no stated problem is solved or unexpected result is obtained by prescribing a laser transmitted impact signal rather than utilizing an RF transmission medium.

Regarding claims 18 and 19, Deinlein discloses a system for simulating the effect of an exploding projectile fired, wherein the transmitter is adapted to emit an impact signal in the form of a high frequency radio signal or an ultrasonic signal (column 1, lines 64-67).

**8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deinlein (USPN 6,450,817 B1), in view of Gross (USPN 5,914,661), still further in view of Varshneya et al. (USPN 4,478,581; hereinafter Goda).**

Regarding claims 8 and 9, as best understood, the combination of Deinlein and Gross discloses a system for simulating the effect of an exploding projectile fired. The combination does not specifically disclose a reflector for reflecting the projectile signal back to a weapon. However, Goda teaches laser weapon simulation further comprising reflectors used to reflect a projectile signal back to a weapon (Column 4, lines 21-37). At the time of the invention, it

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would have been obvious to a person of ordinary skill in the art to modify projectile signal detection means as described in the combination of Deinlein and Gross, by further providing a reflector on a target for reflecting the projectile signal back to a weapon, in light of the teachings of Goda, in order to acquire target position and distance data, thereby providing the shooter with feedback.

**9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Deinlein (USPN 6,450,817 B1), in view of Gross (USPN 5,914,661), still further in view of Draper et al. (USPN 6,254,394; hereinafter Draper).**

The combination of Deinlein and Gross discloses a system for simulating the effect upon a participant device located at the periphery of an explosion that is simulated by the weapon simulator transmitting an impact signal (see Fig. 3a). It is not specifically disclosed that the impact signal is transmitted to a device that is located behind an obstacle. However, Draper discloses a system wherein impact signals are transmitted to participant devices 105 which are located behind an obstacle (column 17, lines 40-50). In view of Draper, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the impact signal transmitter as described in the combination of Deinlein and Gross by providing an impact signal to a device located in the periphery of an explosion and behind an obstacle, thereby simulating the effect of the indirect exposure to the explosion.

***Allowable Subject Matter***

10. Claims 6 and 7, 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Patentability is seen in, although not limited to: (claims 6 and 7) the combination of a device for simulating the effect of exploding projectiles fired by a weapon toward a target area and the configuration for transmitting the impact information, wherein a sensor located near the target area comprises a plurality sensors for triggering a plurality of transmitter elements which are adapted to supply a respective sector having a controllable range over a respective part of the impact area based on the angle of incidence of the weapon signal. The closest prior art of record does not teach or fairly suggest this feature in the combination.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- FitzGerald (USPN 5,571,018) – discloses a system for simulating indirect fire.
- Muehle et al. (USPN 5,980,254) – disclose a system for simulating indirect fire.
- Campagnuolo (USPN 5,474,452) – discloses a system for simulating indirect fire.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin Wallace can be reached on 703-308-4119. The fax phone numbers



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for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

CS

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February 9, 2003



John Hotaling